A Rare Case of Gastric Lipoma with Early Gastric Cancer

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Abstract

An 84-year-old man was admitted to our hospital with a 1-month history of epigastralgia. Upper gastrointestinal endoscopy revealed gastric cancer and a gastric submucosal tumor (SMT) on the greater curvature of the gastric body. By endoscopic ultrasonography, SMT was demonstrated as a well-circumscribed, smooth-bordered and hypoechoic mass localized in the submucosal layer. Total gastrectomy was performed. The histology of the resected specimen revealed a gastric lipoma and an early gastric cancer widespread to the surface on the lipoma. Two lesions were present in the same lesion, but not linked. We report a rare case of gastric lipoma complicated with early gastric cancer.

Case Report

An 84-year-old man was admitted to our hospital with a 1-month history of epigastralgia on April 14, 2003. He had a clinical history of Hansen’s disease (leprosy), and reported no history of smoking or alcohol. On physical examination, he was 164.5 cm in height, 88 kg in weight (BMI: 33.0 kg/m²), blood pressure was 162/76 mmHg, and pulse rate was 74/min. Neither anemia nor jaundice was present. The abdomen was markedly fatty, but a normal bowel sound was heard. There was no abnormal finding in the chest. Laboratory data indicated mild anemia (RBC: 407×10⁴/mm³, HGB: 8.6 g/dl), but other distinct abnormalities, including tumor markers (CEA: 2.7 ng/ml, CA19-9: 6.8 U/ml).

Upper gastrointestinal endoscopy (Fig. 1) revealed an irregular ulceration on the greater curvature of the gastric body, and the histological diagnosis of the biopsy specimen showed a poorly differentiated tubular adenocarcinoma. On the other hand, in the anal side of the gastric cancer, a sessile polypoid lesion with a smooth surface was detected, which was diagnosed as gastric submucosal tumor (SMT). By endoscopic ultrasonography (EUS) (Fig. 2), SMT was demonstrated as a well-circumscribed, smooth-bordered and hypoechoic mass localized in the submucosal layer. But a clear-cut diagnosis of the SMT was difficult. Gastric cancer was not detected by EUS, probably because the scan angle was poor. Abdominal ultrasonography and computed tomography (CT) showed no apparent findings of metastasis.

Under the preoperative diagnosis of a gastric cancer and a gastric SMT, total gastrectomy was performed. Gross and microscopic appearance (Figs. 3–5) of the resected specimen revealed a gastric lipoma, and a flat and superficial depressed-type (IIc+Iib type) poorly differentiated adenocarcinoma that cancer cells were widespread to the surface of the gastric lipoma. The gastric cancer and the lipoma were present very nearby, but not linked.

Key words: benign submucosal tumors, gastric lipoma, early gastric cancer, endoscopic ultrasonography, synchronous
Figure 1. Endoscopic picture of the stomach illustrated an irregular ulceration and a submucosal tumor in the upper body along the greater curvature.

Figure 2. Endoscopic ultrasonography of the submucosal tumor demonstrated a well-circumscribed, smooth-bordered and hypoechoic mass (black arrows) in the submucosal layer of the stomach.

Figure 3. Gross appearance of the resected specimen showed a smooth sessile protrusion near the ulceration.

Figure 4. Microscopic appearance of the semipedunculated protrusion showed a gastric lipoma in the submucosal layer (HE stain, ×20).

Figure 5. Histological findings of the early gastric cancer revealed poorly differentiated adenocarcinoma type IIc+IIb, spreading to the mucosa above the lipoma (HE stain, ×2).
**Discussion**

Gastric lipomas are rare tumors, accounting for only 5% of all gastrointestinal lipomas and only 3% of all benign tumors of the stomach (5–7). The etiology of gastric lipomas is unclear. It may be embryological misplacement or an acquired condition. Lipomas tend to occur as solitary lesions, most frequently in the gastric antrum (1, 2). Though almost cases have no symptoms, lipomas can lead to abdominal pain, dyspepsia, Gastrointestinal bleeding, intussusception and bowel obstruction, and these symptoms may correlate with the size of the lipoma. Endoscopic findings of gastric lipomas are reported as follows; □ cushion sign; the sponge-like, sinking impression made by the biopsy forceps as it is advanced to the lesion, □ tenting sign; the ease of retraction with a biopsy forceps of the normal mucosa overlying the lesion, □ yellowish mucosa (8, 9). But, a clear-cut diagnosis of lipomas is difficult, because routine biopsies usually reveal only normal gastric mucosa. By abdominal CT imaging, lipomas are usually visualized well-circumscribed submucosal masses with uniform fat attenuation (10). But, in the present patient, CT did not reveal the gastric lipoma, probably because the CT slices were too wide.

Recently, EUS has been reported for the excellent diagnosis of lipomas. With EUS technique, gastric walls are identified as five layers. EUS provides more accurate findings of SMTs regarding their shape, size, and location inside gastric walls. The typical findings of EUS reveal lipomas as diffuse hyperechoic tumors within the submucosal layer (11, 12). In addition, EUS-guided fine needle aspiration biopsies are very useful because these techniques directly revealed adipose tissue (13). We were not able to diagnose gastric lipoma in the preoperative findings, because our case demonstrated atypical imaging, which appeared a hypoechoic mass within the submucosal layer. In this case, the volume of the adipose tissue in the submucosal layer surrounding the gastric lipoma may influence the echogenicity of the EUS imaging.

Lipomas have no malignant potential, however, concomitant malignant lesions can occur. With colonic lipomas, colonic adenocarcinomas have been reported to be in 39% of patients (14), but there are very few reported cases of gastric lipomas with an early gastric cancer. These two lesions are separated from each other in most cases, but 3 cases including this case were reported that gastric cancer cells lay in the submucosal layer, though these cases are believed to be coincidental (5), the presence of gastric SMTs that extended in gastric lumen may have repeat erosions or sites of inflammation on the gastric epithelium, which is thought to be the potency which promotes gastric cancer.

This patient had a clinical history of Hansen’s disease (leprosy), but no report about the significant incidence of gastric cancer among leprosy patients has been published (17–19).

In conclusion, we report here a rare case of gastric lipoma coexisting with early gastric cancer. When we find SMTs of the stomach such as lipomas, we should do examinations in detail so as not to overlook synchronous gastric cancer, and a complete follow-up for a long time should be undertaken, because their presentation can cause gastric cancer.

**References**